84-10.

SHEETROCK PYROFILL

CONSTRUCTION FLOORS & ROOFS

[BLANK PAGE]

AUG 25 '28

SHEETROCK PYROFILL

CONSTRUCTION FLOORS & ROOFS

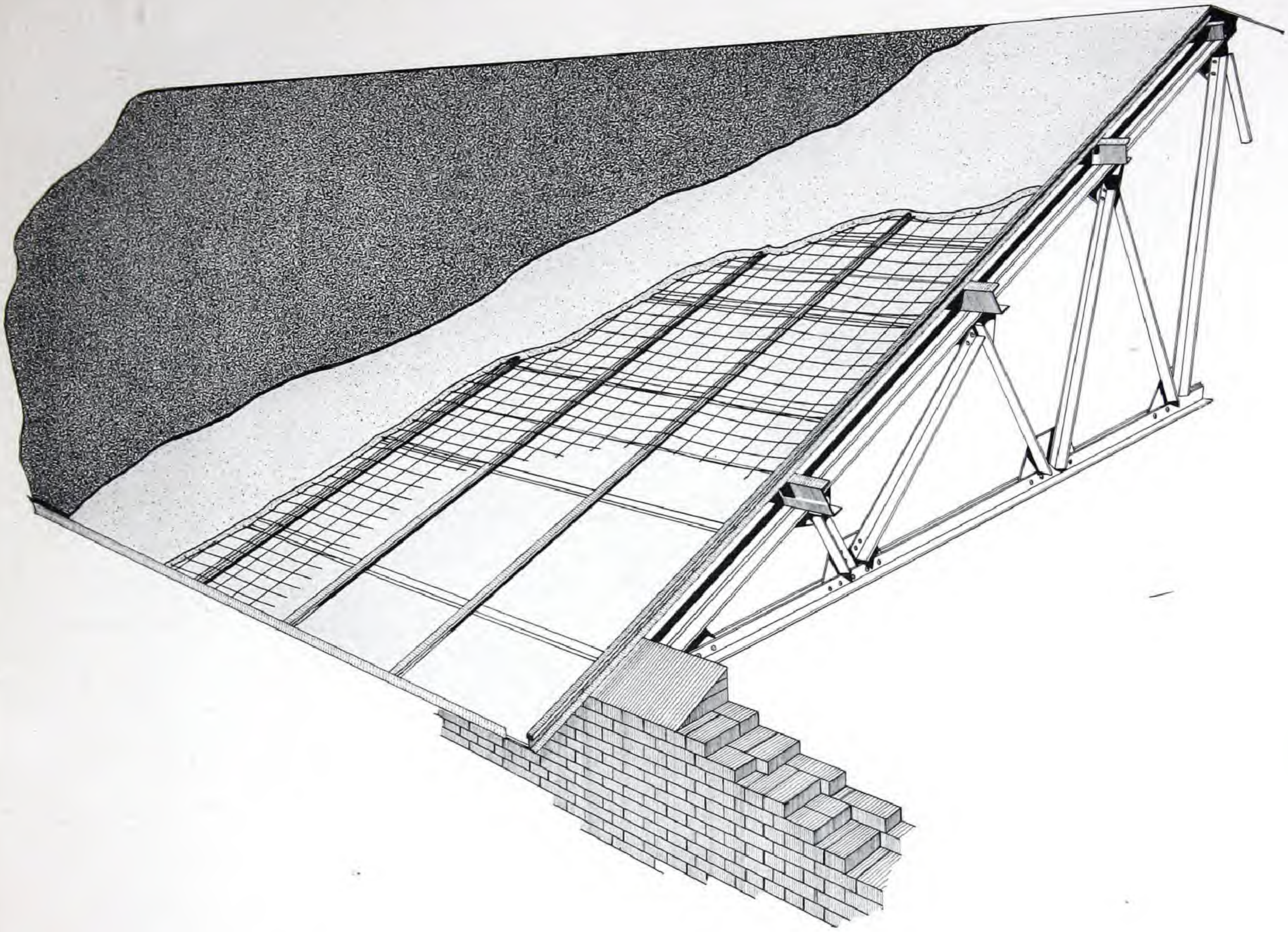
USG

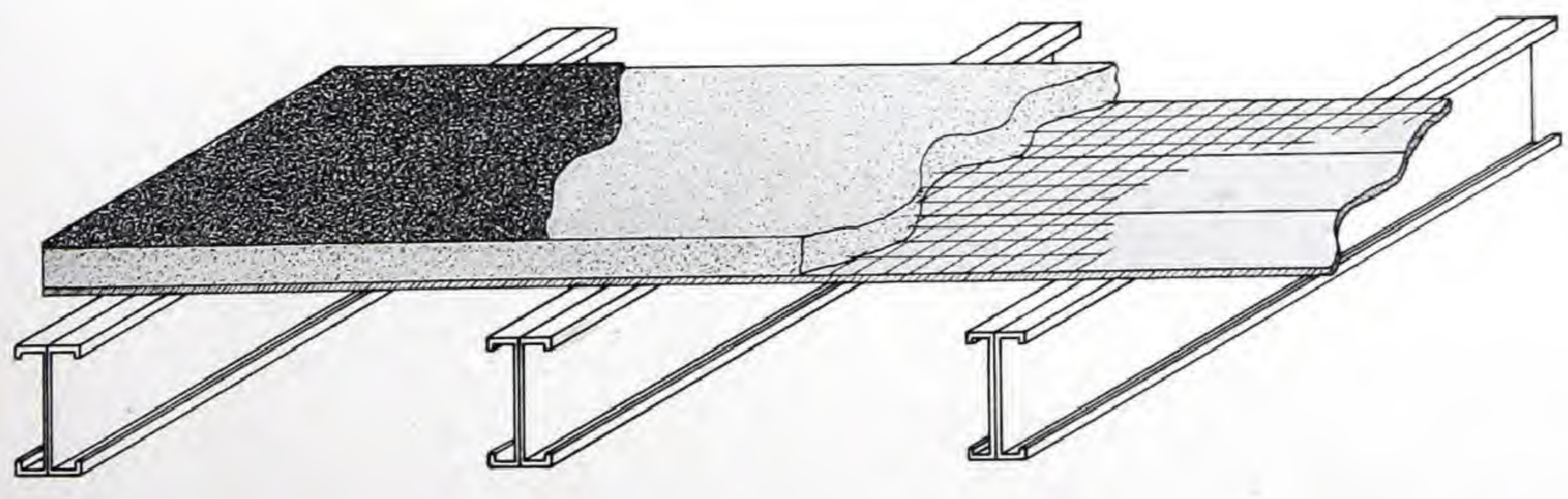
UNITED STATES GYPSUM CO.
205 West Monroe Street
CHICAGO

[BLANK PAGE]

INTERNATIONAL

CCA





Foreword

GYPSUM is one of the most ancient of building materials. The Greeks used gypsum in Pliny's time (23-79 A.D.). His works describe the uses of gypsum and the removal of a beautiful gypsum plaster frieze from Lacedaemon to adorn a public building in Rome. The Temple of Apollo at Bassae, built 470 B.C., affords an excellent example of the use and permanent structural qualities of gypsum. The great pyramids of Egypt contain plaster works of gypsum, executed at least 4,000 years ago.

Builders of all ages have utilized the valuable characteristics of gypsum: Fireproof, highly insulating, light weight, permanent, and adaptable.

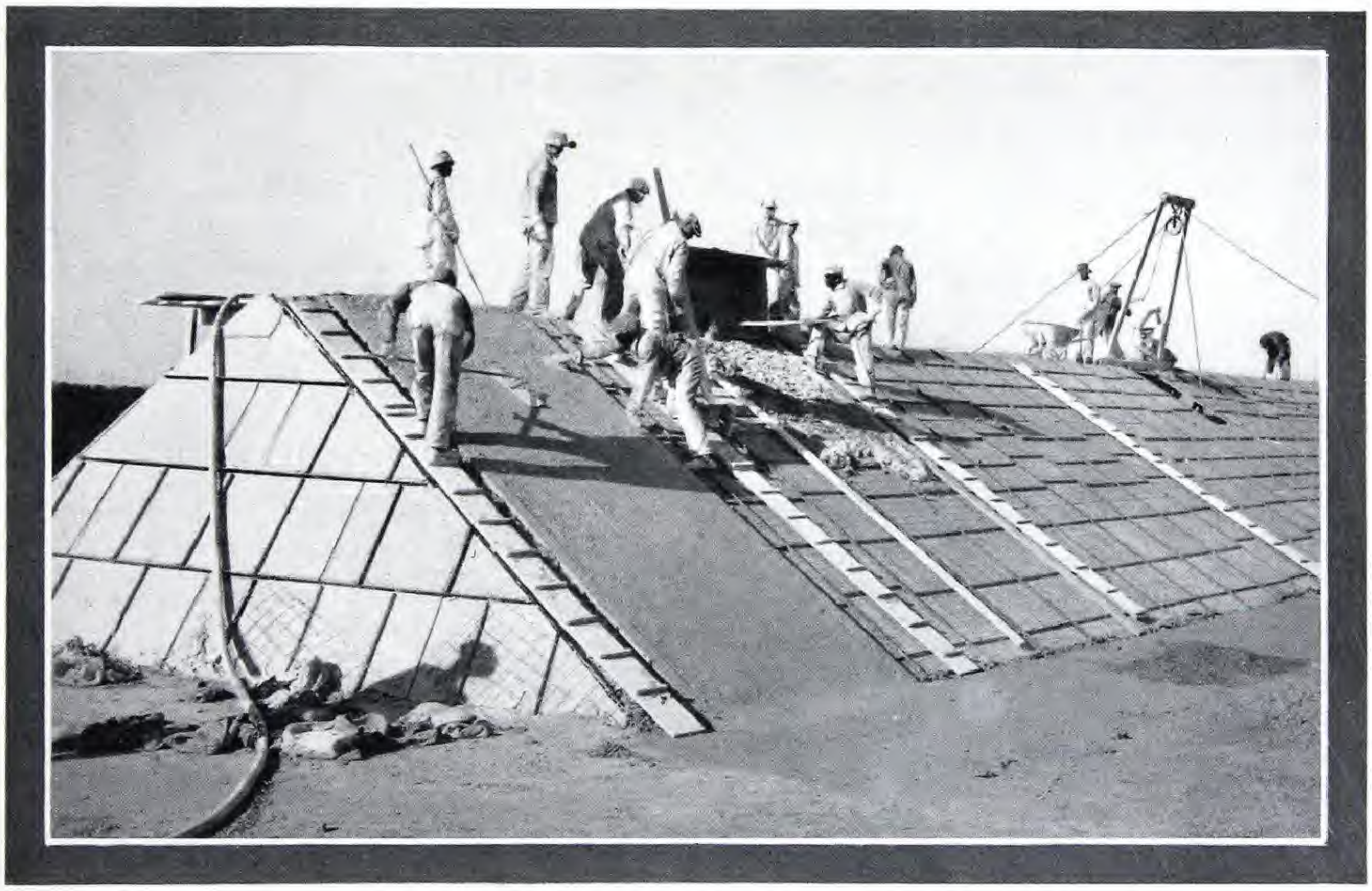
Gypsum has been used in poured roof and floor construction for many years and the United States Gypsum Co., following its general policy, has developed and marketed the best in this type of construction. In the past fifteen years, this Company has installed more than forty million square feet of gypsum roofs on buildings of all descriptions throughout the country.

Increases Insulation · Speeds Construction
Diffuses Light
Fireproof · Attractive · Economical

UNITED STATES GYPSUM COMPANY
205 WEST MONROE STREET, CHICAGO, ILLINOIS

Method of Installation

The Sheetrock-Pyrofill system, as the name implies, consists of permanent Sheetrock forms and Pyrofill reënforced with an electrically-welded galvanized steel fabric. Sub-purlins, either tee irons or light rail sections, are spaced 32½ inches on centers, and clipped to the main roof purlins. This spacing will vary slightly, depending on weight of rail and method of fastening used. Construction details on pages 7 to 10 show spacing for 12-pound rails. On the bottom flanges of these sub-purlins are laid panels of Sheetrock, mill-made in lengths equal to the main purlin spacing, so that all joints on the undersurface are hidden from view, and a neat, smooth ceiling results. A reënforcement consisting of electrically-welded galvanized steel fabric with No. 11 longitudinal wires on 4″ centers and No. 12 cross wires on 8″ centers having a sectional area of .034 sq. in. is then laid on top of the Sheetrock with the main wires running at right angles to the sub-purlins, and the Pyrofill mix is then poured to the desired thickness. Screeding to a smooth finish leaves this Monolithic deck ready for the waterproof covering, with no sharp points or edges protruding to cut the covering.



Thos. Maddock's Sons Co., Trenton, N. J.
W. E. S. Dyer, Engineer

Advantages

The principal advantages of this roof are: light weight, high insulation, fire resistiveness, finished undersurface, even diffusion of light, and freedom from dusting or flaking. The illustration of the

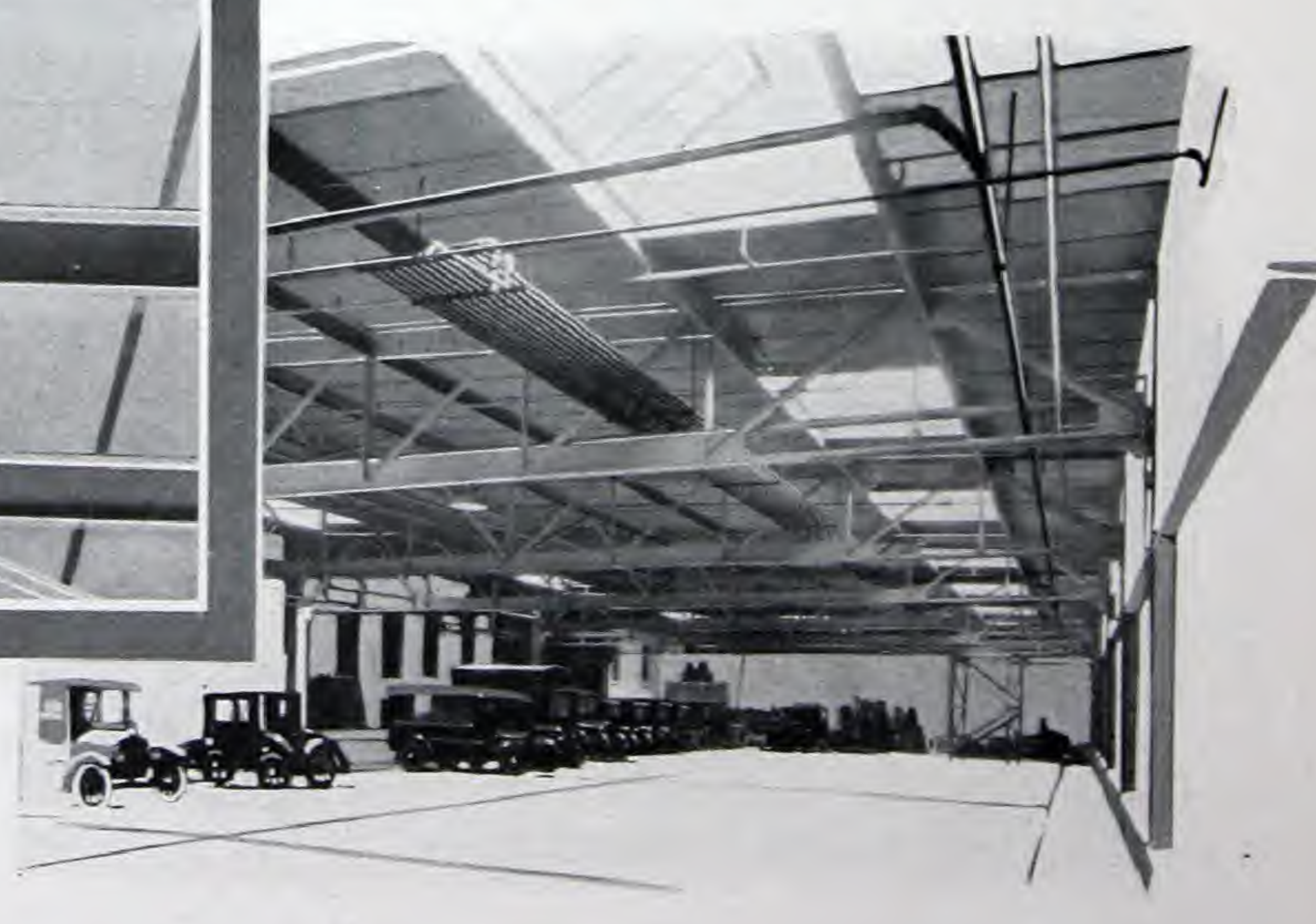
Boston Store Garage and Service Station on this page shows the trim, smooth, attractive undersurface of Sheetrock, which gives to the roof more the appearance of a finished ceiling than the under side of a roof. This surface may be painted readily if desired. The simplicity of this construction permits of rapid erection, thereby tending to reduce construction costs.

Adaptability

Sheetrock-Pyrofill poured-in-place roof construction is not limited to industrial buildings. Its excellent qualities may be utilized on school buildings, auditoriums, gymnasiums, theatres, hospitals, hotels, and even residences. Wherever steel framing is used, the architect or engineer can take advantage of the inherent values of gypsum. This construction can be used on wood framing under certain conditions.

Appearance

The color and the texture of Sheetrock paper is well shown by the roof on the cover design. The trim, attractive undersurface is secured by the use of Sheetrock as a permanent form, mill-made in lengths equal to the main purlin spacings. Sheetrock is made in maximum lengths of 10 feet, and the purlins, when of this span or less, conceal the joints in the Sheetrock, and the under side presents a neat, jointless surface of excellent appearance, which affords an even diffusion of light. The natural gray of the Sheetrock is very effective. The rails are given a gray shop coat to harmonize. The entire undersurface may be painted subsequently to suit any color scheme desired. *This construction is particularly adapted for use over auditoriums, gymnasiums, and other public places, where an attractive, finished ceiling surface is desirable.*



Boston Store Garage
Milwaukee, Wis.
C. Barkhaussen, Architect

Fireproof

The value of a fireproof roof deck cannot be over-emphasized. Fire in adjacent buildings need not jeopardize all your other valuable equipment, and the superior fireproof qualities of gypsum as a building material have been established definitely by many tests made in the Underwriters' Laboratories, Inc., and by the Bureau of Buildings in many of the larger cities. *The temperature of the slab cannot exceed 212 degrees Fahrenheit except on the surface exposed to the fire. This is due to the fact that the water of crystallization in the gypsum must be vaporized during the application of fire to it, and as the gypsum slowly calcines, the cellular structure fills with steam. It is this barrier of calcined material which stubbornly resists the progress of the fire.*

Insulation

Gypsum has the highest insulating value of any known structural building material. In very few places is insulation as important a factor as in a roof deck. Here it performs a double function—it keeps out the heat of the summer sun and materially reduces heat loss in the winter. On a recent installation, a 3-inch Sheetrock-Pyrofill roof, as compared to a 3-inch concrete slab, effected a saving of approximately ninety square feet of radiation and two tons of coal per year per 1,000 square feet of roof area. Such a saving in ten years will pay for the cost of the Sheetrock-Pyrofill roof deck. A firm of consulting engineers was called by one of the large industrial companies to check the heating and ventilating layout of a contemplated building, and the following is an extract from the engineers' report: "With the gypsum roof we would need 186,000 cubic feet of air per minute; with the concrete roof we would need 228,000 cubic feet of air per minute. We would be required to increase the size of the metal risers, the heater, fan, motors, steam piping, etc., and we estimate, at the present unit prices, this larger apparatus would cost about $14,000 more than that required for a gypsum roof installation, and the coal consumption of the increased apparatus would be about 300 tons per season in excess of that required for the smaller equipment."

Garage, Atlantic City, N. J.
Benj. Brown, Architect

PURLIN SIZES AND WEIGHTS FOR VARIOUS TRUSS AND PURLIN SPACINGS

50 Pounds per Square Foot Total Load

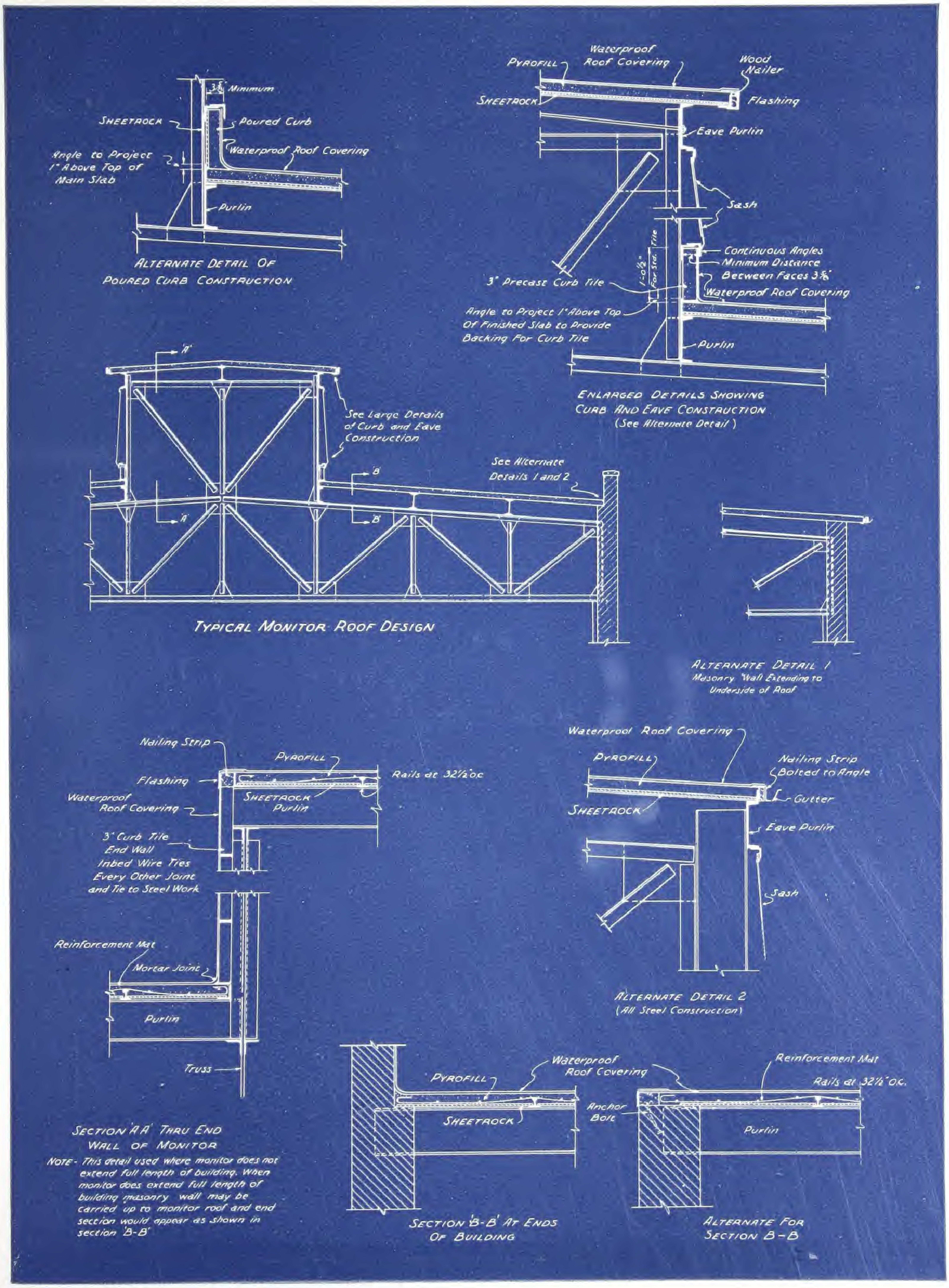
Purlin Spacing	TRUSS SPACING	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"
6'-0"	Size of Member	4"[-5.4 lb.	5"[-6.7 lb.	6"[-8.2lb.	7"[-9.8lb.	8"[-11.5lb.	9"[-13.4lb.	10"[-15.3lb.	10"[-15 3lb.	12"[-20.7lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	.900	1.12	1.37	1.63	1.92	2.23	2.55	2.55	3.45
	Stress in Purlin lbs. per sq. inch	15,000	15,000	15,000	14,700	14,200	13,850	13,450	16,200	12,200
	Deflection in inches	.248	.31	.373	.425	.468	.515	.558	.81	.603
7'-0"	Size of Member	5"[-6.7 lb.	6"[-8.2 lb.	7"[-9.8lb.	8"[-11.5lb.	9"[-13.4lb.	9"[-13.4lb.	10"[-15.3lb.	12"[-20 7lb.	12"-[20.7lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	.96	1.17	1.40	1.64	1.91	1.91	2.19	2.96	2.96
	Stress in Purlin lbs. per sq. inch	11,200	12,100	12,666	12,700	12,800	16,100	15,700	11,900	14,100
	Deflection in inches	.14	.208	.27	.32	.341	.602	.65	.498	.70
8'-0"	Size of Member	....	6"[-8.2 lb.	7"[-9.8lb.	8"[-11.5lb.	9"[-13.4lb.	10"[-15.3lb.	12"[-20.7lb.	12"[-20 7lb.	12"[-20.7lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	....	1.03	1.23	1.44	1.68	1.91	2.58	2.58	2.58
	Stress in Purlin lbs. per sq. inch	....	14,000	14,400	14,500	14,600	14,500	11,300	13,600	16,200
	Deflection in inches	....	.242	.305	.367	.43	.485	.39	.566	.80
9'-0"	Size of Member	....	6"[-8.2lb.	7"[-9.8lb.	9"[-13.4lb.	10"[-15.3lb.	10"[-15.3lb.	12"[-20.7lb.	12"[-20.7lb.	12"I-27.9lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	....	.91	1.09	1.49	1.70	2.30	2.30	2.30	3.12
	Stress in Purlin lbs. per sq. inch	....	15,700	16,200	12,600	12,900	16,300	12,700	15,300	11,700
	Deflection in inches	....	.27	.345	.284	.341	.546	.438	.64	.58
10'-0"	Size of Member	....	7"[-9.8lb.	8"[-11.5lb.	9"[-13.4lb.	10"[-15.3lb.	12"[-20.7lb.	12"[-20.7lb.	10"I-22.4lb.	12"I-27.9lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	....	.98	1.15	1.34	1.53	2.07	2.07	2.24	2.79
	Stress in Purlin lbs. per sq. inch	....	12,500	13,350	14,000	14,300	11,350	14,000	16,000	13,000
	Deflection in inches	....	.185	.249	.315	.378	.317	.484	.804	.645
11'-0"	Size of Member	....	7"[-9.8lb.	8"[-11.5lb.	9"[-13.4lb.	10"[-15.3lb.	12"[-20.7lb.	12"[-20.7lb.	10"I-25.4lb.	12"I-27.9lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	....	.89	1.04	1.22	1.39	1.88	1.88	2.30	2.54
	Stress in Purlin lbs. per sq. inch	....	13,750	14,700	15,400	15,750	12,500	15,400	16,300	14,300
	Deflection in inches	....	.204	.274	.347	.416	.349	.533	.815	.71
12'-0"	Size of Member	....	7"[-9.8lb.	8"[-11.5lb.	10"[-15.3lb	12"[-20.7lb	12"[-20.7lb.	10"I-22.4lb.	12"I-27.9lb.	12"I-27.9lb.
	Wt. of Steel in lbs. per Sq. Ft. of roof	....	.82	.96	1.28	1.73	1.73	1.87	2.33	2.33
	Stress in Purlin lbs. per sq. inch	....	15,000	16,000	13,150	10,750	13,500	15,800	13,100	15,600
	Deflection in inches	....	.222	.298	.266	.238	.38	.654	.546	.775

RAIL SIZES FOR PURLIN SPANS UP TO 12'-6"
WITH FIBER STRESS NOT EXCEEDING 16,000 LBS. PER SQ. IN.

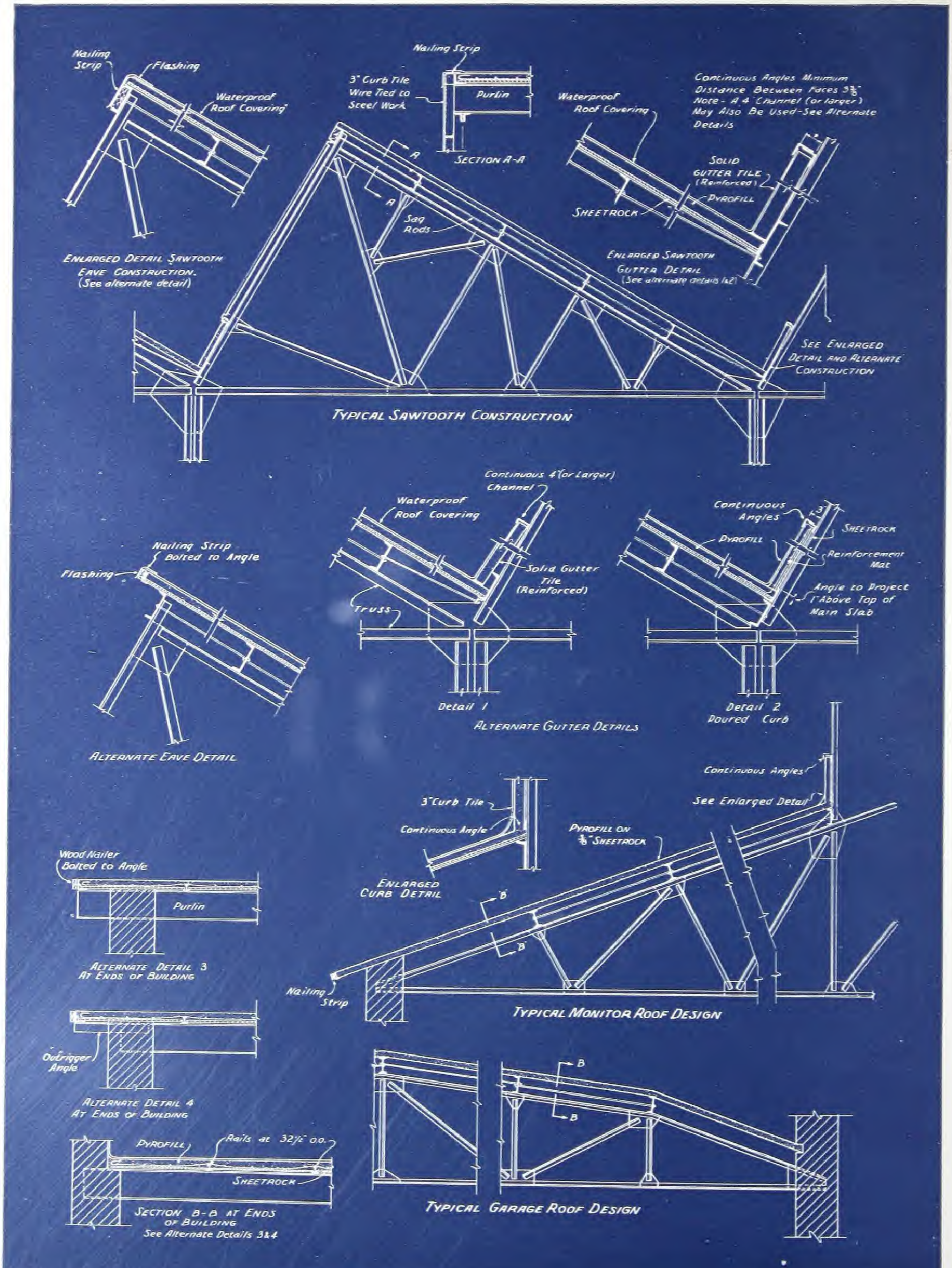
50 Pounds per Square Foot Total Load—B. $M = \frac{1}{10} WL$

Span of Main Purlins	Size of Rail	Weight of Rail per Sq. Ft. of Roof	*Minimum Thickness of Slab	Weight of Slab Including Rail
Up to 5'-9"	8 lb.	1.00 lb.	2½"	11.50 lb.
5'-9" to 8'-0"	12 lb.	1.50 lb.	2½"	12.00 lb.
8'-0" to 10'-0"	16 lb.	2.00 lb.	2½"	12.50 lb.
10'-0" to 11'-6"	20 lb.	2.50 lb.	3"	15.00 lb.
11'-6" to 12'-6"	25 lb.	3.125 lb.	3"	15.50 lb.

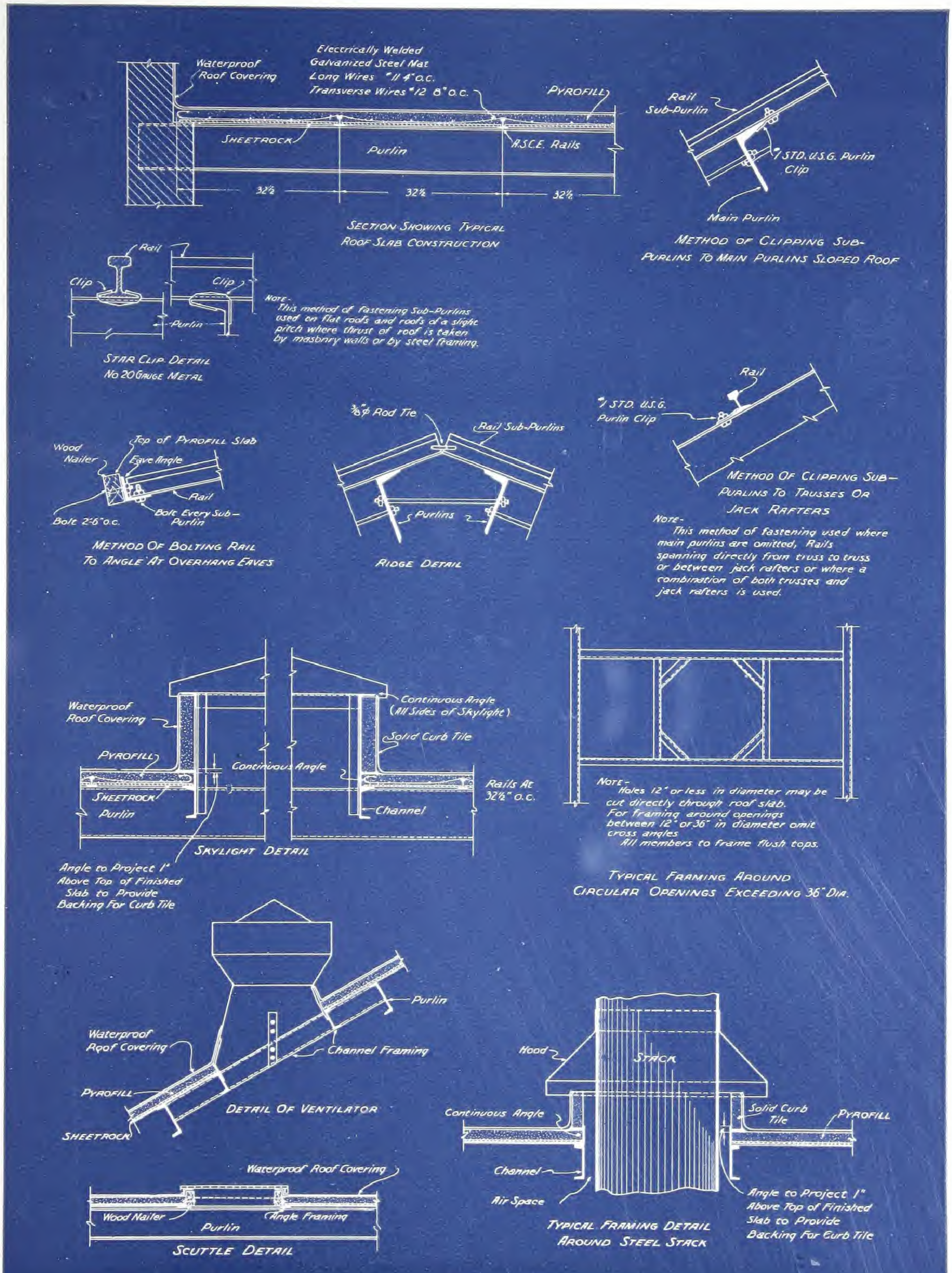
*Includes thickness of Sheetrock



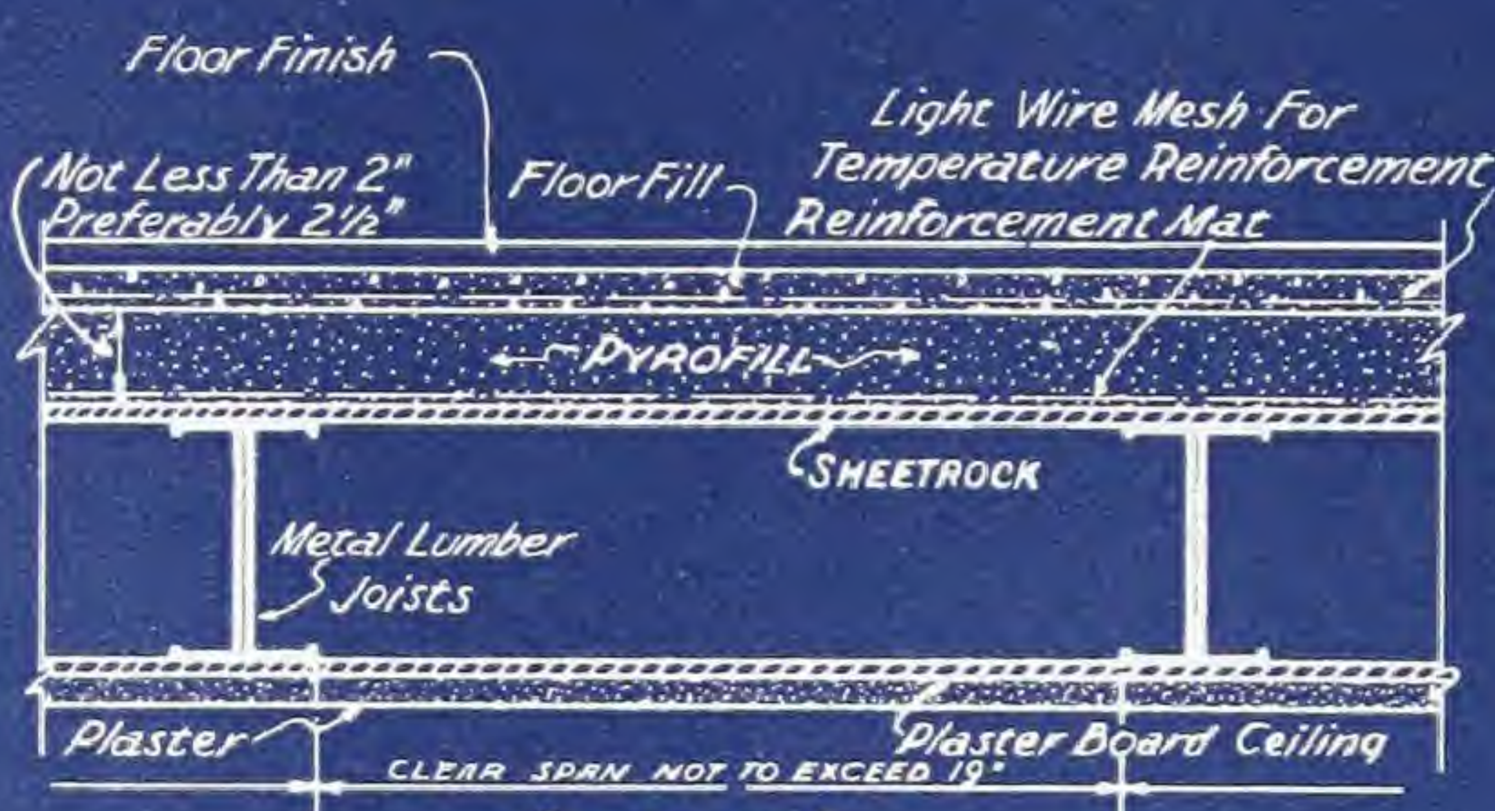
3⅝" Minimum
SHEETROCK
Poured Curb
Angle to Project 1" Above Top of Main Slab
Waterproof Roof Covering
Purlin
ALTERNATE DETAIL OF POURED CURB CONSTRUCTION
PYROFILL
Waterproof Roof Covering
Wood Nailer
SHEETROCK
Flashing
Eave Purlin
Sash
Continuous Angles Minimum Distance Between Faces 3⅝"
3" Precast Curb Tile
1'-0½" For Std. Tile
Waterproof Roof Covering
Angle to Project 1" Above Top Of Finished Slab to Provide Backing For Curb Tile
Purlin
ENLARGED DETAILS SHOWING CURB AND EAVE CONSTRUCTION
(See Alternate Detail)
'A'
See Large Details of Curb and Eave Construction
See Alternate Details 1 and 2
'B'
TYPICAL MONITOR ROOF DESIGN
ALTERNATE DETAIL 1
Masonry Wall Extending to Underside of Roof
Nailing Strip
PYROFILL
Flashing
Rails at 32½" o.c.
Waterproof Roof Covering
SHEETROCK
Purlin
3" Curb Tile End Wall Inbed Wire Ties Every Other Joint and Tie to Steel Work
Reinforcement Mat
Mortar Joint
Purlin
Truss
SECTION 'A-A' THRU END WALL OF MONITOR
NOTE - This detail used where monitor does not extend full length of building. When monitor does extend full length of building masonry wall may be carried up to monitor roof and end section would appear as shown in section 'B-B'
Waterproof Roof Covering
PYROFILL
Nailing Strip Bolted to Angle
Gutter
SHEETROCK
Eave Purlin
Sash
ALTERNATE DETAIL 2
(All Steel Construction)
PYROFILL
Waterproof Roof Covering
Reinforcement Mat
Rails at 32½" o.c.
Anchor Bolt
SHEETROCK
Purlin
SECTION 'B-B' AT ENDS OF BUILDING
ALTERNATE FOR SECTION B-B



Nailing Strip
Flashing
Waterproof Roof Covering
Enlarged Detail Sawtooth Eave Construction. (See alternate detail)
Nailing Strip
3" Curb Tile Wire Tied to Steel Work
Purlin
Section A-A
A
Sag Rods
Continuous Angles Minimum Distance Between Faces 3⅞" Note - A 4" Channel (or larger) May Also Be Used - See Alternate Details
Waterproof Roof Covering
Solid Gutter Tile (Reinforced)
Pyrofill
Sheetrock
Enlarged Sawtooth Gutter Detail (See alternate details 1&2)
See Enlarged Detail and Alternate Construction
Typical Sawtooth Construction
Nailing Strip Bolted to Angle
Flashing
Alternate Eave Detail
Continuous 4"(or Larger) Channel
Waterproof Roof Covering
Solid Gutter Tile (Reinforced)
Truss
Detail 1
Alternate Gutter Details
Continuous Angles
Sheetrock
Pyrofill
Reinforcement Mat
Angle to Project 1" Above Top of Main Slab
Detail 2 Poured Curb
Continuous Angles
See Enlarged Detail
3" Curb Tile
Continuous Angle
Enlarged Curb Detail
Pyrofill on ⅜" Sheetrock
B
Nailing Strip
Typical Monitor Roof Design
Wood Nailer Bolted to Angle
Purlin
Alternate Detail 3 At Ends of Building
Outrigger Angle
Alternate Detail 4 At Ends of Building
Pyrofill
Rails at 32½" o.c.
Sheetrock
Section B-B at Ends of Building See Alternate Details 3&4
Typical Garage Roof Design

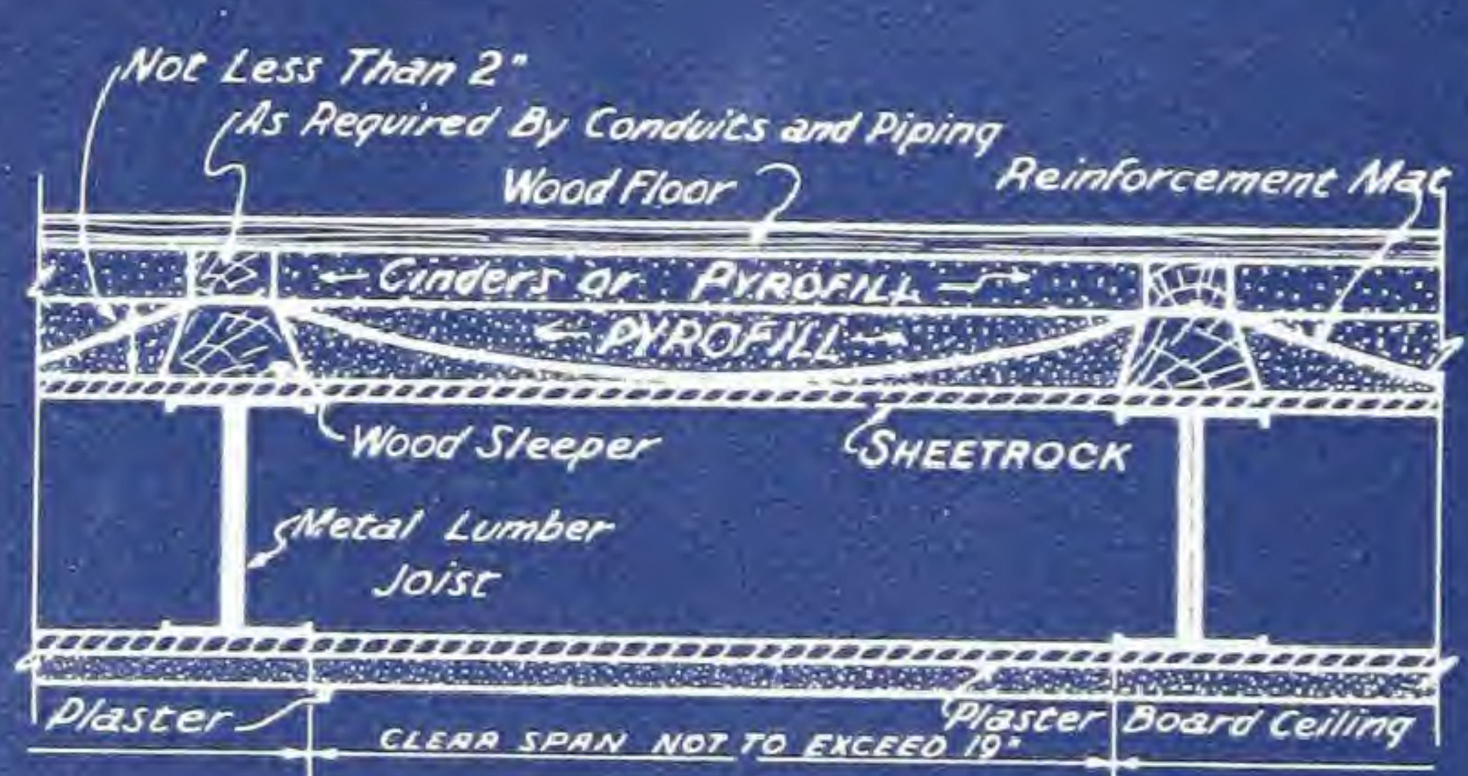


Electrically Welded
Galvanized Steel Mat
Long Wires #11 4" O.C.
Transverse Wires #12 8" O.C.
Waterproof Roof Covering
PYROFILL
SHEETROCK
Purlin
A.S.C.E. Rails
32½
32½
32½
SECTION SHOWING TYPICAL ROOF SLAB CONSTRUCTION
Rail
Sub-Purlin
#1 STD. U.S.G. Purlin Clip
Main Purlin
METHOD OF CLIPPING SUB-PURLINS TO MAIN PURLINS SLOPED ROOF
Rail
Clip
Clip
Purlin
STAR CLIP DETAIL
No 20 GAUGE METAL
Note-
This method of fastening Sub-Purlins used on flat roofs and roofs of a slight pitch where thrust of roof is taken by masonry walls or by steel framing.
Rail
#1 STD. U.S.G. Purlin Clip
METHOD OF CLIPPING SUB-PURLINS TO TRUSSES OR JACK RAFTERS
Note-
This method of fastening used where main purlins are omitted, Rails spanning directly from truss to truss or between jack rafters or where a combination of both trusses and jack rafters is used.
Wood Nailer
Top of PYROFILL Slab
Eave Angle
Rail
Bolt 2'-6" o.c.
Bolt Every Sub-Purlin
METHOD OF BOLTING RAIL TO ANGLE AT OVERHANG EAVES
⅜"φ Rod Tie
Rail Sub-Purlins
Purlins
RIDGE DETAIL
Waterproof Roof Covering
PYROFILL
SHEETROCK
Purlin
Continuous Angle
Continuous Angle (All Sides of Skylight)
Solid Curb Tile
Rails At 32½" O.C.
Channel
SKYLIGHT DETAIL
Angle to Project 1" Above Top of Finished Slab to Provide Backing For Curb Tile
Note-
Holes 12" or less in diameter may be cut directly through roof slab.
For framing around openings between 12" or 36" in diameter omit cross angles
All members to frame flush tops.
TYPICAL FRAMING AROUND CIRCULAR OPENINGS EXCEEDING 36" DIA.
Purlin
Waterproof Roof Covering
Channel Framing
PYROFILL
SHEETROCK
DETAIL OF VENTILATOR
Waterproof Roof Covering
Wood Nailer
Angle Framing
Purlin
SCUTTLE DETAIL
Hood
STACK
Continuous Angle
Solid Curb Tile
PYROFILL
Channel
Air Space
Angle to Project 1" Above Top of Finished Slab to Provide Backing For Curb Tile
TYPICAL FRAMING DETAIL AROUND STEEL STACK

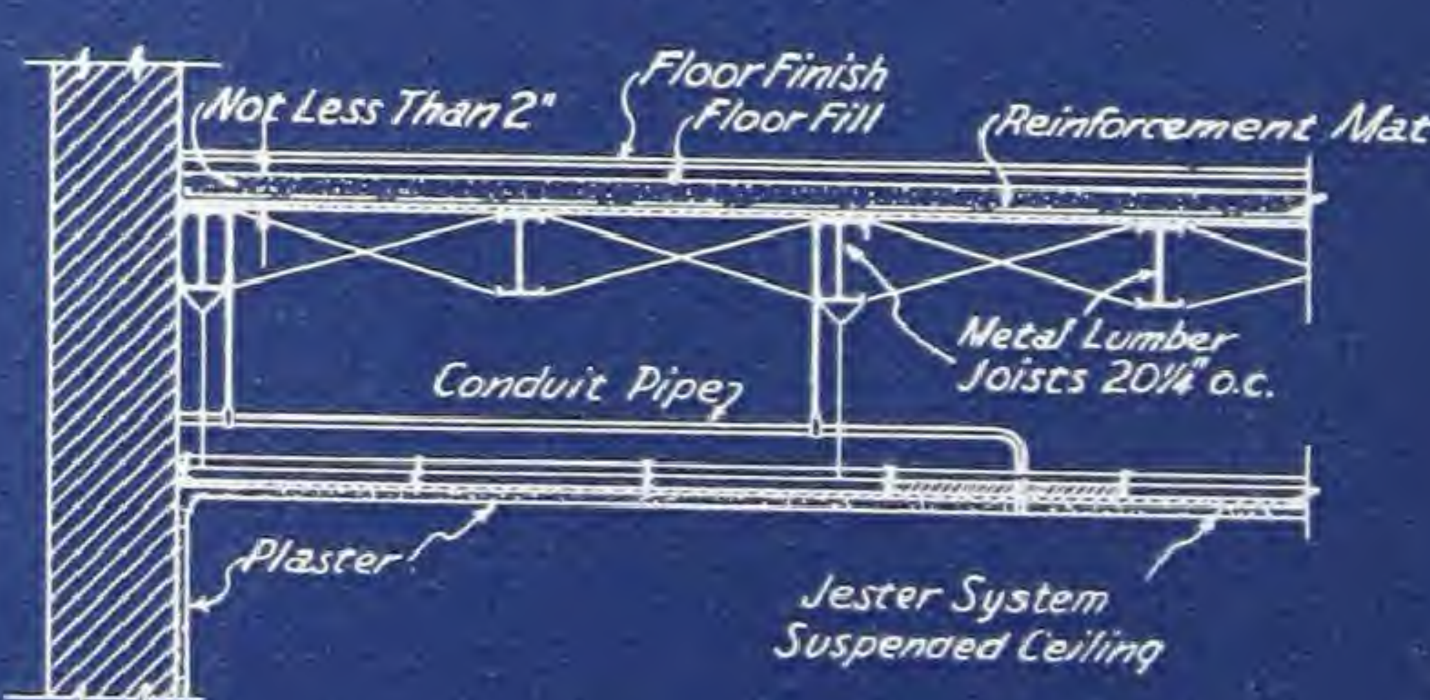


SCHEME I
CEMENT OR TERRAZZO FLOOR FINISH

SCHEME II
WOOD FLOOR FINISH



SCHEME III
WOOD FLOOR FINISH



SCHEME IV
SHOWING SUSPENDED CEILING

Light Weight

Light weight, combined with strength, permits of decided savings in all supporting members, which frequently amount to quite a sum when you consider freight, haul, hoist, erection, and the interest on the investment.

The tables on page 6 indicate the amount of steel per square foot required for a total load of 50 pounds and a careful comparison will show a very worthwhile saving in steel over other construction.

Economical

Sheetrock-Pyrofill roof decks are adaptable to practically any type of building: flat, monitor, sawtooth, Pond, Aiken, etc., and will be found very economical on jobs of 6,000 square feet or over. The cost of this type of construction will vary with the following:

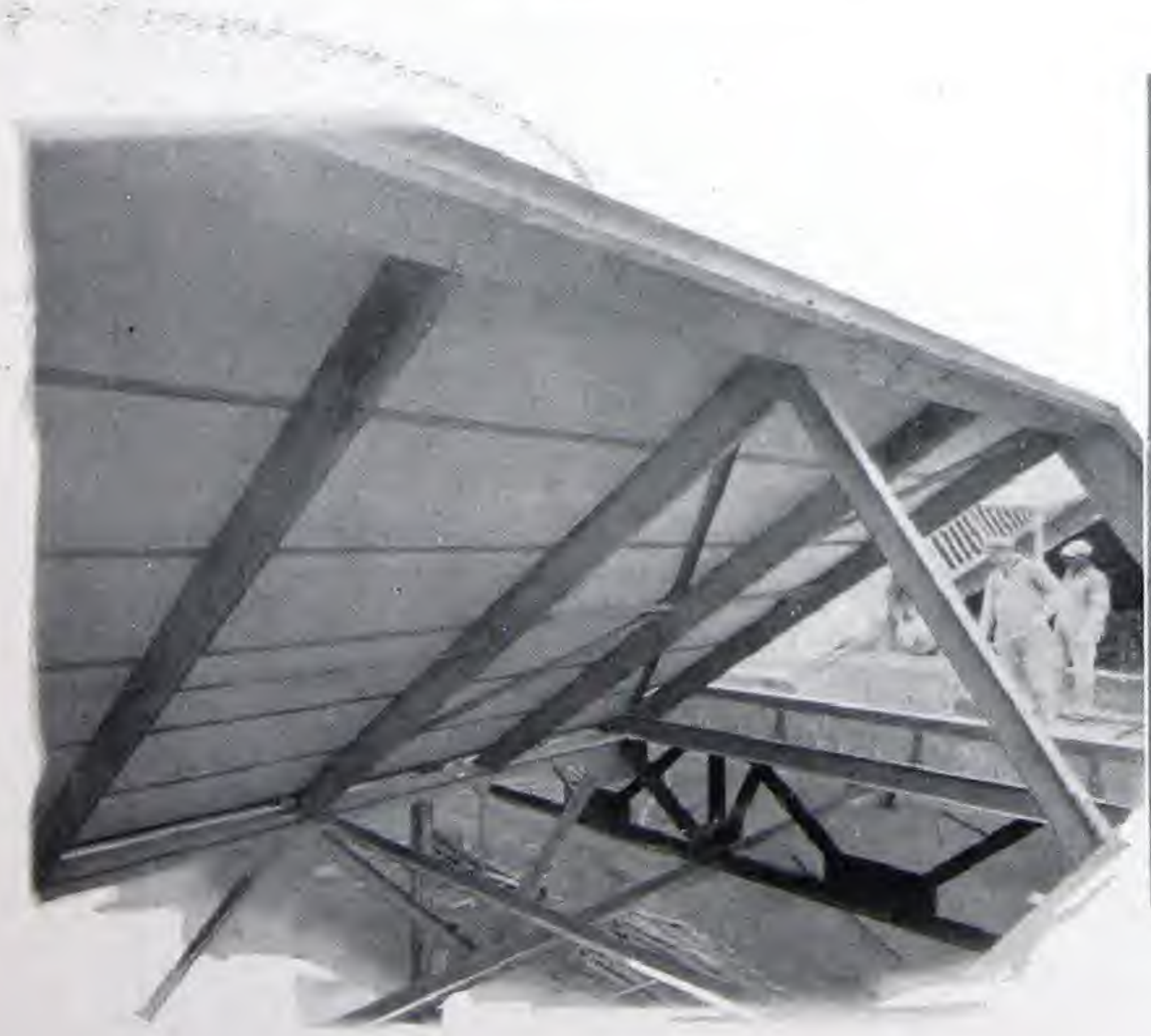
1. Length of span
2. Uniformity of span
3. Pitch of roof
4. General accessibility

Usually a span of approximately eight feet with a 2½-inch slab thickness will be found most economical. By preserving uniformity of span, the labor costs are reduced, and the standard lengths of Sheetrock may be used. While flat roofs require less labor than steep ones, the difference up to 30 degrees pitch is not of sufficient importance to warrant serious consideration on the part of the designer. On a roof, however, of 45 degrees or over, it is necessary to back form from the top in order to get a good job, and this will add to the cost of the roof.

Curbs

Curbs above and below monitors or sawtooth sash may be constructed of Sheetrock Pyrofill or precast tile, the latter reënforced when carrying a roof load or restraining drainage fill.

End walls of monitors, sawtooth skylights, "A" frames, etc., may be constructed of Pyrobar curb tile (3″ x 15″ x 30″ non-reënforced).



W. F. Hall Printing Co., Chicago, Ill.
Weiss & Niestadt, Architects and Engineers

SPECIFICATIONS

United States Gypsum Company's Sheetrock-Pyrofill Roof Construction

Unless otherwise shown or noted, all roof slabs shall be of the thickness shown on plans and shall be constructed according to the United States Gypsum Company's system of Sheetrock-Pyrofill Roof Construction. This contractor shall provide all Sheetrock, sub-purlins, reënforcing material, Pyrofill and all labor required for his work. Light rails or tee irons sub-purlins shall be laid and fastened to the main purlins by clips. The sub-purlins shall be so spaced as to accommodate the size of Sheetrock used, and shall be figured to carry the total live and dead load. The Sheetrock shall be provided in lengths equal to the main purlin spacing with no cross members or joints showing. The Sheetrock shall be laid on and supported by the bottom flange of the sub-purlins, and on the boards shall be laid an electrically welded galvanized steel fabric of the proper sectional area to carry the specified roof load. The main wires of this fabric shall run at right angles to the sub-purlins.

The Pyrofill composition used shall consist of a uniform mixture of calcined gypsum and water into which is stirred not over 12 per cent by weight (12 pounds by weight) of wood planer shavings to every 100 pounds of calcined gypsum, and shall be poured directly on the Sheetrock to the required thickness and screeded to as smooth a surface as practicable to receive the waterproof roof covering.

All openings in slabs for down-spouts, soil pipes, vents, etc., shall be accurately located by the purchaser before the slab is poured. Curbs above and below monitors or sawtooth sash shall be constructed of Sheetrock-Pyrofill or Pyrobar precast tile, the latter reënforced when carrying roof load or restraining drainage fill.

Brunswick-Kroeschell Co., Chicago
Davidson & Weiss, Architects

End walls of monitors, sawtooth skylights, "A" frames, etc., may be constructed of Pyrobar curb tile (3″ x 15″ x 30″ non-reënforced).

The waterproof roof covering shall be applied as soon as possible after the slab is erected, preferably within twenty days after completion of the Gypsum Slab.

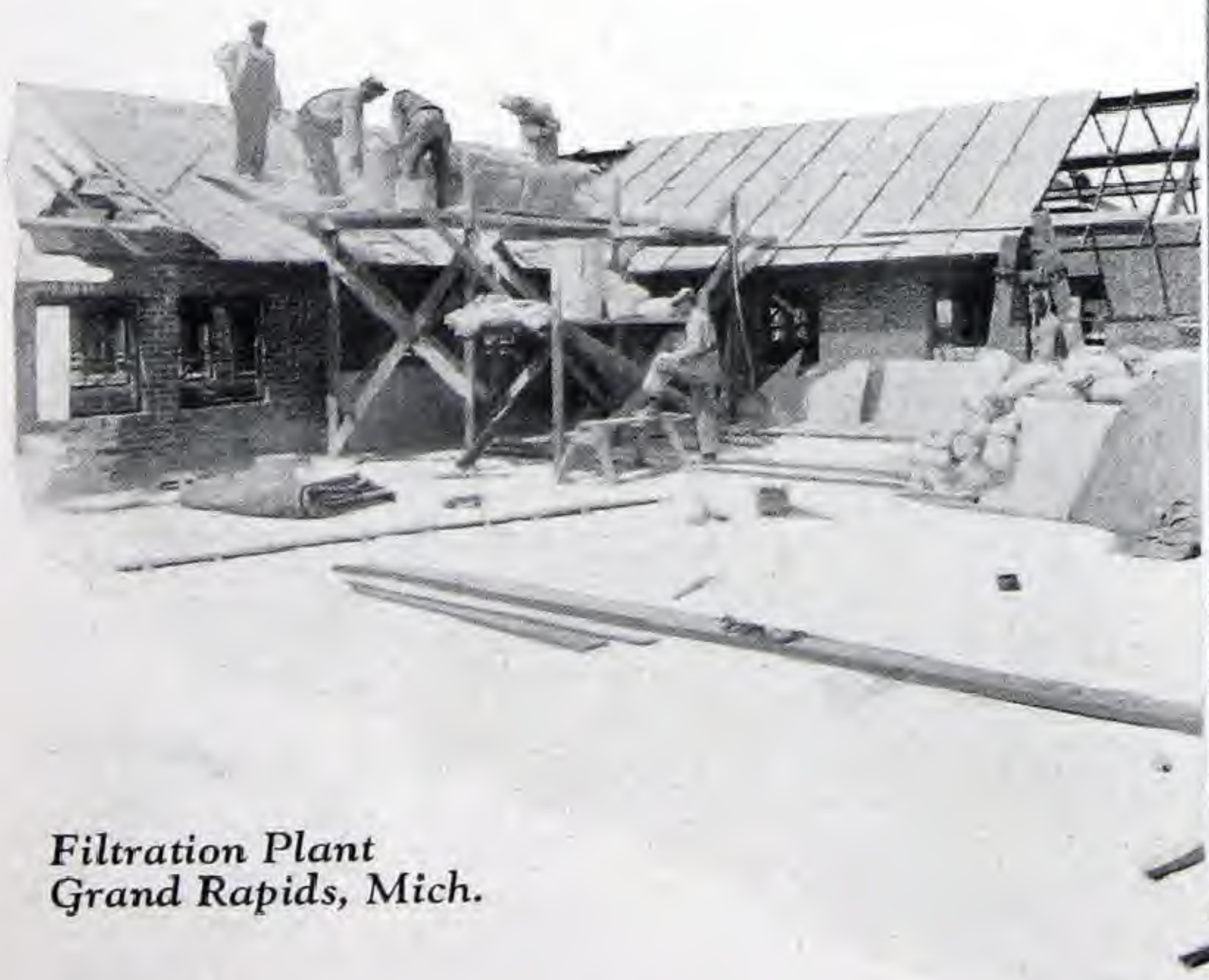
Sheetrock-Pyrofill Floor Construction

Metal Lumber and Open-Bar Joists

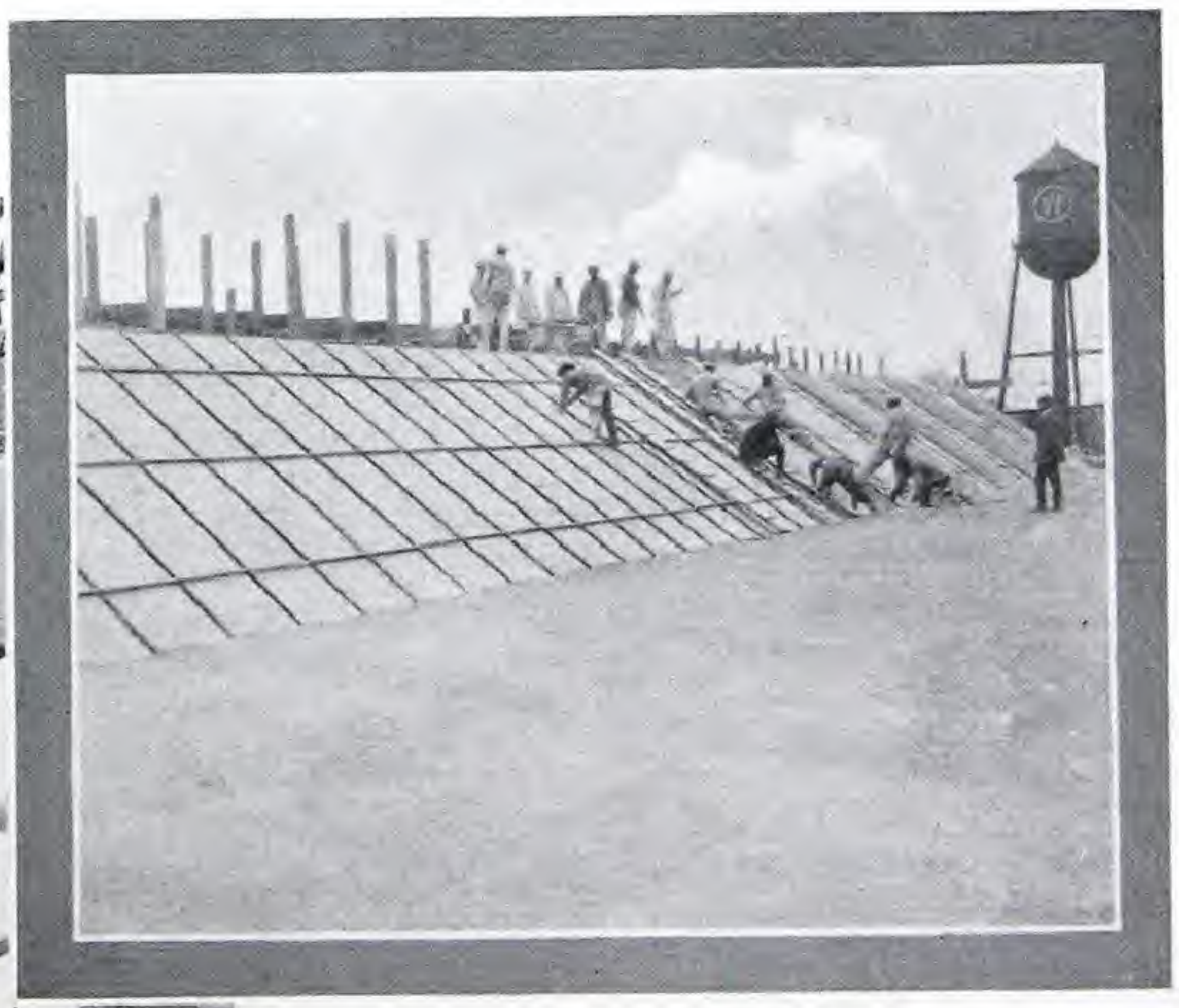
The development of "metal lumber" and open-bar joists during the last several years has enabled us to work out some excellent combinations of these joists and our Sheetrock-Pyrofill system for both floors and roofs. This construction reduces dead loads throughout the building, due to the lighter steel work involved and the light weight feature of the Sheetrock-Pyrofill system, without sacrificing strength, fire-resistance, insulation, or sound-resistance. The possibilities of this construction are vast. Where land values are high, it is often expedient to put on additional floors, and for this no other type of construction is more suitable. An existing building, capable of supporting two extra stories of concrete, will support three or four additional floors of the Sheetrock-Pyrofill system. This construction weighs less than half as much as concrete.

Ceiling Construction

When this type of steel construction is used, and a plastered ceiling is required,



Filtration Plant
Grand Rapids, Mich.



Westinghouse Elec. & Mfg. Co.
Essington (Penna.) Plant
U. G. I. Cont. Co., Architects

plaster board is attached to the bottom of the metal lumber joists by a special clip, and an economical, uniform, level ceiling is ready for the plasterer.

Where metal lumber joists having wall bearing are used in such construction as hospitals, school buildings, and other similar work where light loads are encountered, our Sheetrock-Pyrofill construction is well adapted and can be topped with a wearing surface of cement, Terrazzo, or wood. Conduit installations are readily made, as may be noted from the construction details on page 10. If the cement finish can be applied within a day after the gypsum has been poured, no treatment of the gypsum slab will be necessary, but if the slab has been allowed to become partially dry, we recommend a surface coating of an approved damp-proofing compound to kill the suction before placing any cement or concrete topping.

Maintenance

The maintenance cost of a Sheetrock-Pyrofill roof is practically nothing. Calcined gypsum is chemically inert. Examinations of steel rods and hooks, imbedded for fifteen years in gypsum, have shown no evidence of progressive corrosion, thus further establishing the durability and permanence of this system.

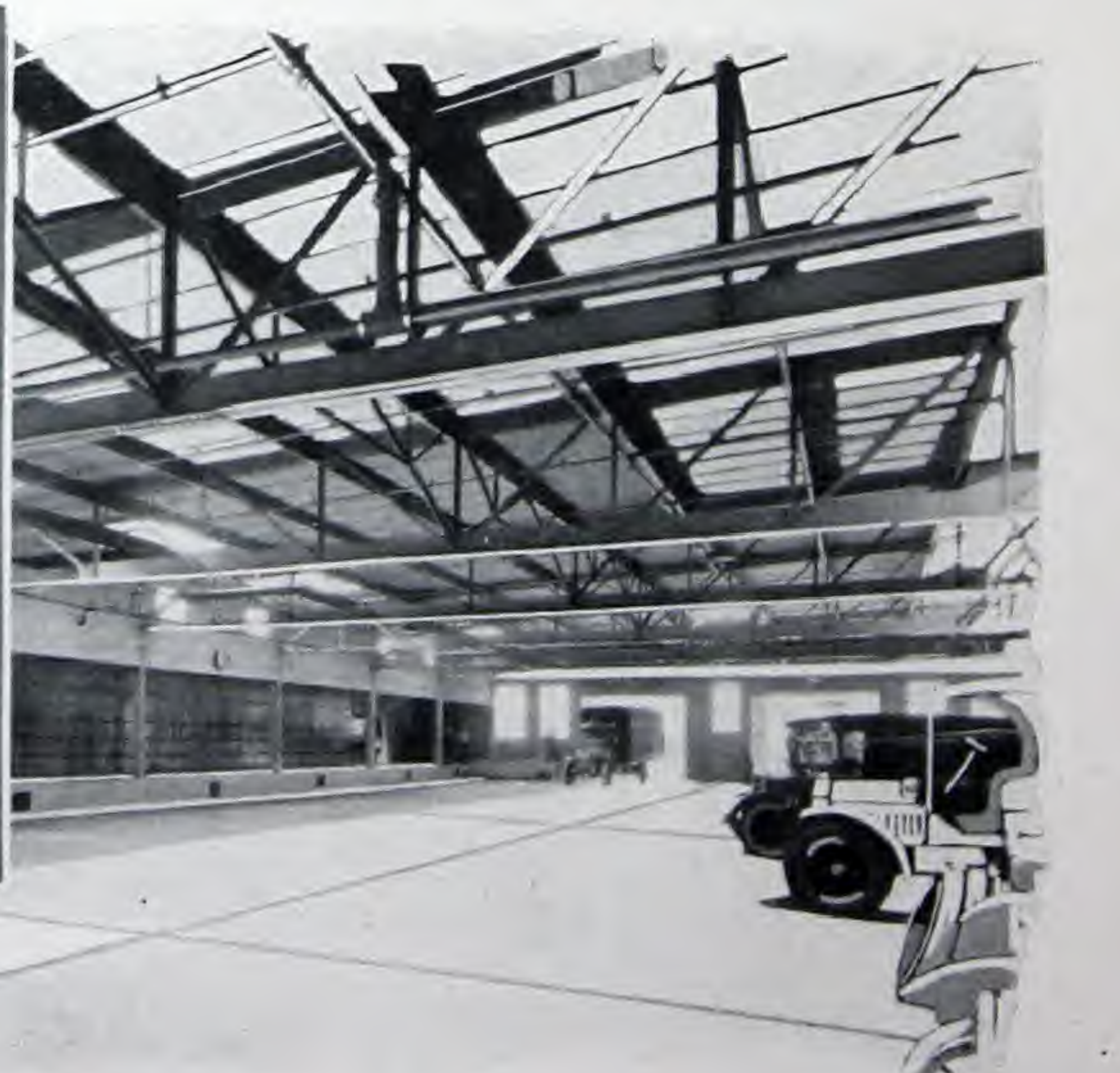
Engineering Service

We maintain a competent staff of engineers and a complete construction organization, so that we can handle an installation with experienced workmen, assuring speed in your construction program, and satisfaction in the finished floor or roof. Just mail us a set of plans and they will be returned to you promptly with our bid.

Manufacturing Service

The Sheetrock and Pyrofill materials are produced entirely within our own

Undersurface
Westinghouse Elec. & Mfg. Co.



Essington (Penna.) Plant, Westinghouse Elec. & Mfg. Co., U. G. I. Cont. Co., Architects

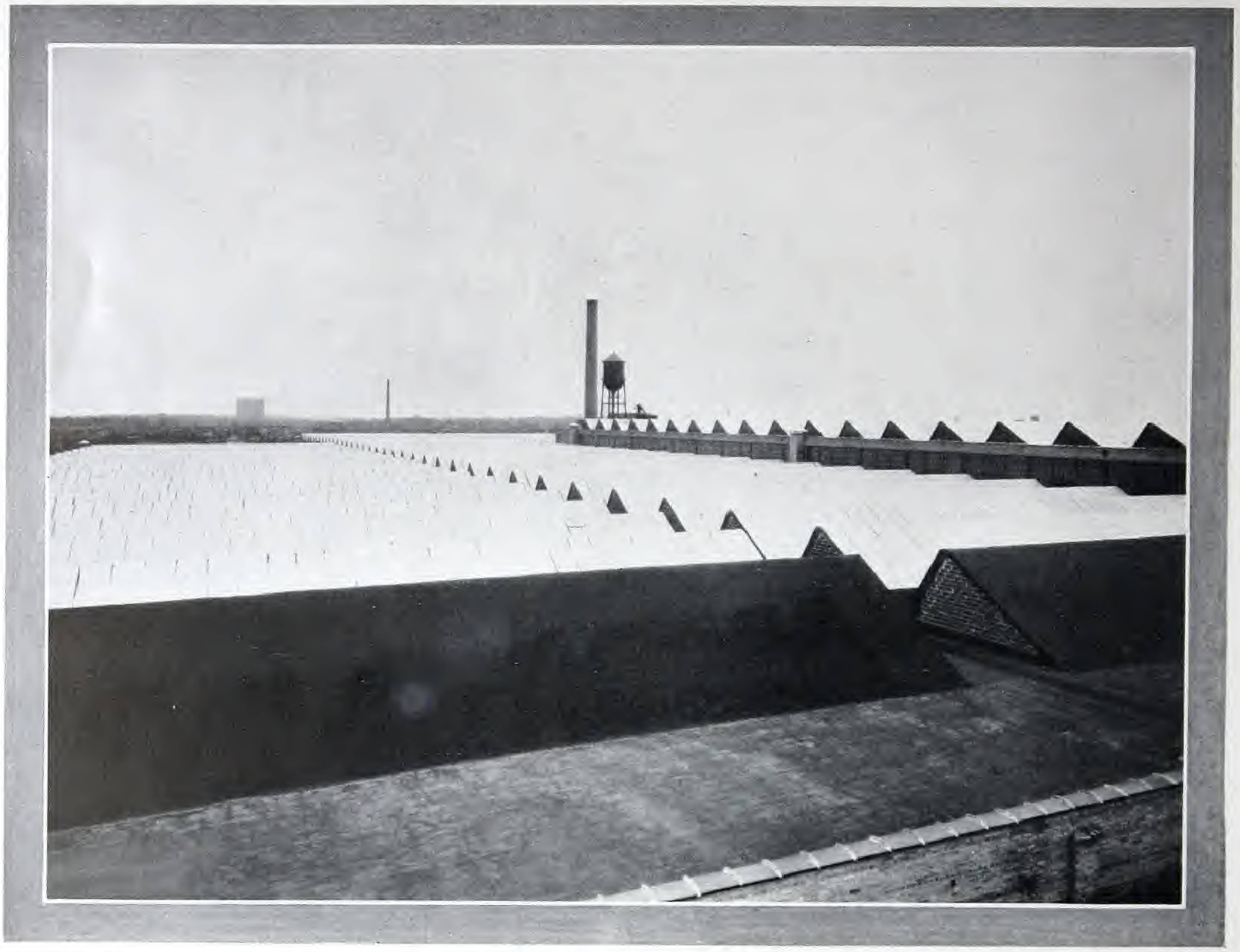
mills (the steel fabric being made to our specifications) *so that we control the quality of the Sheetrock and stucco from the time it is mined as gypsum until it is installed as a floor or roof deck in your building.* Our thorough inspection of all materials and supervision of manufacturing processes assure you of quality, uniformity, and satisfaction. Our many plants, strategically located, can give you prompt and continuous service.

SPECIFICATIONS

United States Gypsum Company's Sheetrock-Pyrofill Floor Construction

Unless otherwise shown or noted, all rough floors shall be of the thickness shown on plans and shall be constructed according to the United States Gypsum Company's system of Sheetrock-Pyrofill floor construction. This contractor shall provide all Sheetrock, Pyrofill, reënforcement, and labor required for his work. The installation of floor joists or other supporting members is not included in this contractor's work.

The Sheetrock shall be laid on and supported by the floor joists, all joints to be made on joists, and on the Sheetrock shall be laid an electrically-welded galvanized steel fabric of the proper sectional area as reënforcement to carry the specified floor load The main wires of



Top of W. F. Hall Printing Co. Plant

this fabric shall run at right angles to the floor joists.

The Pyrofill composition used shall consist of a uniform mixture of calcined gypsum and water, into which is stirred not over 12% (12 lb. by weight) of wood planer shavings to every 100 lb. of calcined gypsum and shall be poured directly on the Sheetrock to the required thickness and screeded to a smooth surface. If wood sleepers are used, they shall be furnished and placed by the carpenter contractor.

All openings in floors shall be accurately located by the purchaser before slab is poured.

(To be included in specifications for the finish flooring.) Cement Finish to be applied directly to gypsum slab. If the concrete slab is poured within a day after the gypsum has been poured, no special treatment of the gypsum slab will be necessary. If the gypsum slab has been allowed to become partially dry, it shall be coated with an approved damp-proofing compound before placing any cement or concrete topping.

Representative Installations

SHEETROCK PYROFILL ROOFS OR FLOORS

Garages

Meyer C. Yaskin, Philadelphia, Pa .... 14,435 sq. ft.
Architect—Ralph Priest.
Philadelphia for A. Leibovitz .... 17,200 sq. ft.
Philadelphia for A. Leibovitz .... 16,000 sq. ft.
Architect—E. C. Haldeman, Philadelphia, Pa.
A. E. Jaiver, Philadelphia, Pa .... 11,600 sq. ft.
Architect—J. Frank Clark, Philadelphia, Pa.
John A. Roebling Sons Co., Trenton, N. J., Private Plans .... 13,862 sq. ft.
Harry Bland, Springfield, Mass .... 12,100 sq. ft.
Engineers—Palmer Steel Co.
W. P. Shields, Est., Philadelphia, Pa .... 27,300 sq. ft.
Engineers—Cantley & Duncan
International Harvester Co., Elmira, N. Y., Private Plans .... 10,575 sq. ft.
Joseph Lupowitz, Philadelphia, Pa., Private Plans .... 14,456 sq. ft.
D. Goldberg, Atlantic City, N. J .... 15,276 sq. ft.
Architect—Benj. Brown
International Harvester Company, Aurora, Ill., Private Plans .... 9,447 sq ft.
Boston Store, Milwaukee, Wis .... 16,160 sq. ft.
Architect—Carl Barkhaussen, Milwaukee, Wis.
B. E. Miller, Akron, Ohio .... 10,800 sq. ft.
Architect—Fichter and Brooker.
J. M. Vest, Huntington, W. Va .... 2,000 sq. ft.
Architect—Meanor & Handloser, Huntington, W. Va.

Theatres

Audubon Theatre—Orange, N. J .... 12,100 sq. ft.
Architect—Wm. E. Lehman, Newark, N. J.
Theatre—Irvington Door & Lumber Co., Summit, N. J .... 11,700 sq. ft.
Architect—Wm. E. Lehman, Newark, N. J.
Loew Theatre, New Orleans, La .... 17,300 sq. ft.
Architect—Thos. W. Lamb.

Miscellaneous

Manufacturing Building—Pittsburgh Piping & Equipment Co., Pittsburgh, Pa., Private Plans .... 67,240 sq. ft.
Fire Department Repair Shop—City of Baltimore, Md., Private Plans .... 23,400 sq. ft.
Warehouse—Battelle & Renwick, New Market, N. J., Private Plans .... 11,120 sq. ft.
Studio and Laboratory—Prof. W. H. Bristol, Waterbury, Conn .... 13,781 sq. ft.
Architect—F. A. Webster, Waterbury, Conn.
Machine Shop—John E. Thropp & Son Co., Trenton, N. J .... 12,500 sq. ft.
Architect—W. E. S. Dyer, Philadelphia, Pa.
Factory—Russell, Burdsall & Ward, Bolt & Nut Co., Port Chester, N. Y .... 13,455 sq. ft.
Engineers—The Austin Co.
Shop Building—Jerry O. Mahoney, Elizabeth, N. J .... 27,315 sq. ft.
Architect—Morris J. Sheffer.
Car Repair Shop—D. L. & W. R. R., E. Buffalo, N. Y., Private Plans .... 29,405 sq. ft.
Machine Shop and Power House—Bath Portland Cement Co., Sandts Eddy, Pa .... 13,300 sq. ft.
Engineers—Public Service Production Co.
Y. M. & Y. W. H. A., Pittsburgh, Pa .... 22,850 sq. ft.
Architect—Benno Janssen, Pittsburgh, Pa.
Simplex Wire & Cable Co., Cambridge, Mass .... 27,600 sq. ft.
Engineers—Stone & Webster
Boiler Plant—Draper Corp., Hopedale, Mass .... 11,800 sq. ft.
Engineer—J. A. Stevens, Lowell, Mass.
Hospital Addition—Waterbury General Hospital, Waterbury, Conn .... 20,994 sq. ft.
Architect—F. A. Webster.
Crane Co., Bridgeport, Conn., Private Plans .... 35,030 sq. ft.
School Auditorium—School, Wildwood, N. J .... 9,385 sq. ft.
Architect—A. Rex Stackhouse.
Thos. Maddocks Son Co., Trenton, N. J .... 222,945 sq. ft.
Architect—W. E. S. Dyer, Philadelphia, Pa.
Upper Works Building—Russell, Burdsall & Ward, Bolt & Nut Co., Port Chester, N. Y. .... 22,850 sq. ft.
Engineers—The Austin Co.
Blade Shop Extension—Westinghouse Elec. & Mfg. Co., Essington, Pa .... 74,000 sq. ft.
Engineers—U. G. I. Contracting Co., Philadelphia, Pa.
Kroger Grocery & Baking Company, Branch Warehouse, Cincinnati, Ohio .... 19,845 sq. ft.
Machine Shop—Charter Gas Engine Company, Sterling, Ill .... 13,535 sq. ft.
Engineers—F. D. Chase, Inc., Chicago.
Train Shed, Shipping Room, Etc.—Sears Roebuck Company, Kansas City, Mo .... 47,925 sq. ft.
Architect—Geo. C. Nimmons & Company.

Miscellaneous—*Continued*

Factory Building—Pauly Jail Company, St. Louis, Mo. .... 18,130 sq. ft.
Engineers—Mississippi Valley Structural Steel Co., St. Louis, Mo.
Amusement Pier, Ocean Park Realty Company, Santa Monica, Calif .... 30,000 sq. ft.
Factory Building—St. Louis Screen Company .... 29,010 sq. ft.
Engineer—Mississippi Valley Structural Steel Co., St. Louis, Mo.
Illinois Electric Porcelain Company, Macomb, Ill., Private Plans .... 10,860 sq. ft.
Auditorium—H. H. Stambaugh Memorial, Youngstown, Ohio .... 23,800 sq. ft.
Architect—Helmle & Corbett, New York City.
Factory Building—Mizer Corp., Detroit, Mich .... 30,600 sq. ft.
Architect—Fred J. Winter, Detroit, Mich.
Engine Room—The Bettendorf Co., Bettendorf, Iowa, Private Plans .... 12,570 sq. ft.
Union Memorial Building—University of Iowa, Iowa City, Iowa .... 12,810 sq. ft.
Architect—Boyd & Moore, Des Moines, Iowa.
Factory Building—Blackmer Rotary Pump Co., Grand Rapids, Mich .... 32,175 sq. ft.
Architect—Owen-Ames-Kimball Co., Grand Rapids, Mich.
Forge Shop—Chas. F. Larsen & Son, Chicago, Ill .... 12,188 sq. ft.
Architect—Mundie & Jensen, Chicago, Ill.
Power Plant and Switch House—United Light & Power Co., Iowana, Iowa, Private Plans .... 17,900 sq. ft.
Store and Office Building—Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis .... 17,600 sq. ft.
Architect—L. A. De Guerre, Wisconsin Rapids, Wis.
Central Junior High School, Kansas City, Mo .... 16,795 sq. ft.
Architect—C. A. Smith.
Printing Plant—W. F. Hall Printing Co., Chicago, Ill .... 370,883 sq. ft.
Engineers—Weiss & Niestadt, Chicago, Ill.
Pumping Station—City of Newton, Kansas .... 10,000 sq. ft.
Architect—E. T. Archer & Company, Kansas City, Mo.
Addition to Forge Shop—American Spiral Pipe Works, Cicero, Ill .... 14,334 sq. ft.
Engineers—Weiss & Niestadt, Chicago, Ill.
Elks Club, B. P. O. E. Lodge No. 556, Moline, Ill .... 15,385 sq. ft.
Architect—Whitsitt & Schulzke, Moline, Ill.
Stock House No. 10—Anheuser-Busch Co., St. Louis, Mo., Private Plans .... 27,300 sq. ft.
Illinois Electric Porcelain Co., Macomb, Ill., Private Plans .... 12,825 sq. ft.
Junior and Senior High School, Ironwood, Mich .... 14,615 sq. ft.
Architect—Craft & Boerner, Minneapolis, Minn.
Redemptorist School, Kansas City, Mo .... 10,000 sq. ft.
Architect—E. P. Madorie.
Island Station, St. Paul Gas Light Co., St. Paul, Minn .... 15,000 sq. ft.
Architect—Toltz King & Day.
Factory—Brunswick-Kroeschell Co., Chicago, Ill .... 61,018 sq. ft.
Architect and Engineer—Davidson & Weiss, Chicago, Ill.
Factory—Raymond Bros. Impact Pulverizer Company, Chicago, Ill .... 21,700 sq. ft.
Engineers—Leonard Construction Co.
Printing Plant and Boiler House—McCaskey Register Company, Alliance, Ohio .... 27,600 sq. ft.
Engineers—Lockwood Greene Co.
Foundry Building—Wagner Malleable Iron Co., Decatur, Ill .... 10,000 sq. ft.
Architect—Mississippi Valley Structural Steel Co., St. Louis, Mo.
Jail, Tampa, Fla .... 7,400 sq. ft.
Architect—Fred James.
Factory—E. E. Hauserman Company, Cleveland, Ohio .... 10,990 sq. ft.
Architect—Geo. S. Rider Co., Pittsburgh, Pa.
Tool House—Carnegie Steel Co., So. Duquesne, Pa., Private Plans .... 10,255 sq. ft.
Printing Plant, Evans, Winter, Hebb, Inc., Detroit, Mich .... 24,250 sq. ft.
Architect—F. J. Winter, Detroit, Mich.
Sub-Station—Babcock & Wilcox Co., Barberton, Ohio, Private Plans .... 9,600 sq. ft
Machine Shop—National Malleable Castings Co., Sharon, Pa., Private Plans .... 19,000 sq. ft.
Plant Addition—Westinghouse Products Co., Mansfield, Ohio .... 24,080 sq. ft.
Engineers—B. H. Prack.
Factory Office Building and Boiler House—Barnes Wire Fence Co., Detroit, Mich., Private Plans .... 18,900 sq. ft.
Filtration Plant—City of Grand Rapids, Mich., Private Plans .... 18,000 sq. ft.
Monroe Avenue School, Huntington, W. Va .... 15,850 sq. ft.
Architects—Meanor & Handloser.
Gymnasium—Board of Education, Hamilton, Ohio .... 10,350 sq. ft.
Architects—G. W. Barkman and Frederick G. Mueller, Hamilton, Ohio.
Foundry & Hard Iron Foundry-Auto Specialty Manufacturing Co., St. Joseph, Mich .... 30,300 sq. ft.
Warehouse—Auto Specialty Manufacturing Co., St. Joseph, Mich .... 8,960 sq. ft.
Architect and Engineer—Davidson & Weiss, Chicago, Ill.
Auditorium—Central High School, Akron, Ohio .... 11,300 sq. ft.
Architect—M. M. Konarski, Akron, Ohio.
Addition to Building No. 2—Rickenbacker Motor Co., Detroit, Mich .... 41,300 sq. ft.
Architect—F. J. Winter, Detroit, Mich.
Journalism and Chemistry Building Addition—University of Ohio, Columbus, Ohio .... 30,750 sq. ft.
Architect—J. M. Bradford.
Sand Storage Building—Saginaw Products Co., Saginaw, Mich., Private Plans .... 11,280 sq. ft